
Embryonic stem cell-specific microRNAs promote induced pluripotency.

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Public Summary:

Scientific Abstract:

This report demonstrates that introduction of microRNAs (miRNAs) specific to embryonic stem cells enhances the production of mouse induced pluripotent stem (iPS) cells. The miRNAs miR-291-3p, miR-294 and miR-295 increase the efficiency of reprogramming by Oct4, Sox2 and Klf4, but not by these factors plus cMyc. cMyc binds the promoter of the miRNAs, suggesting that they are downstream effectors of cMyc during reprogramming. However, unlike cMyc, the miRNAs induce a homogeneous population of iPS cell colonies.

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